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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 United States Special Operations Command									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 1160482BB: SOF Rotary Wing Aviation/D615							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	3.202	18.784	14.473	0.000	14.473	2.891	0.000	11.025	1.972	Continuing	Continuing
D615: SOF Rotary Wing Aviation	3.202	18.784	14.473	0.000	14.473	2.891	0.000	11.025	1.972	Continuing	Continuing
A. Mission Description and Budget Item Justification											
This program element develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47D/E/G, and A/MH-6M. These aircraft provide aviation support to Special Operations Forces (SOF) in worldwide contingency operations and low-intensity conflicts. They must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters.											
B. Program Change Summary (\$ in Millions)											
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
Previous President's Budget	3.162	18.863	0.000	0.000	0.000						
Current President's Budget	3.202	18.784	14.473	0.000	14.473						
Total Adjustments	0.040	-0.079	14.473	0.000	14.473						
• Congressional General Reductions		-0.079									
• Congressional Directed Reductions		0.000									
• Congressional Rescissions	0.000	0.000									
• Congressional Adds		0.000									
• Congressional Directed Transfers		0.000									
• Reprogrammings	0.000	0.000									
• SBIR/STTR Transfer	0.040	0.000									
• Other Adjustments	0.000	0.000	14.473	0.000	14.473						
Congressional Add Details (\$ in Millions, and Includes General Reductions)										FY 2009	FY 2010
Project: D615: SOF Rotary Wing Aviation											
Congressional Add: Cable Warning Obstacle Avoidance System										0.799	0.000

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<u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u> Congressional Add: <i>Hostile Fire Indicating System</i>		FY 2009	FY 2010
		0.799	0.000
Congressional Add Subtotals for Project: D615		1.598	0.000
Congressional Add Totals for all Projects		1.598	0.000
<u>Change Summary Explanation</u> Funding: FY09: Increase of \$0.040 million is due to restoration of congressional add funds transfered to Small Business Innovative Research account. FY10: Decrease is due to Section 8097 congressional general reduction (-\$0.079 million). FY11: Increase of \$14.473 million is due to the DoD not estimating FY 2011 cost when the FY 2010 President's Budget was prepared. Schedule: None. Technical: None.			

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Exhibit R-2A, RDT&E Project Justification: PB 2011 United States Special Operations Command								DATE: February 2010			
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
D615: SOF Rotary Wing Aviation	3.202	18.784	14.473	0.000	14.473	2.891	0.000	11.025	1.972	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>This project develops/upgrades SOF rotary wing aircraft systems that operate in increasingly hostile environments. Rotary wing aircraft supported by this project include: MH-60L/K/M, MH-47E/G, and A/MH-6M. These aircraft provide aviation support to SOF in worldwide contingency operations and low-intensity conflicts, and they must be capable of rapid deployment; undetected penetration of hostile areas; and operating at extended ranges under adverse weather conditions to infiltrate, provide logistics for, reinforce, and extract SOF. The threat is characterized by an extensive and sophisticated ground based air defense system and an upgraded air-to-air capability targeted against helicopters. Efforts include:</p> <ul style="list-style-type: none">• MH-47/MH-60/A/MH-6M Aircraft. (1) Develops the Reduced Optical Signature Emission Solution (ROSES), which reduces the optical signature output of the current infrared expendable decoys for purposes of reducing Army Special Operations Aviation aircraft vulnerabilities. This flare solution will have the capability to decoy currently fielded infrared missiles and more sophisticated emerging threats, and is an interim solution pending flare technology advancements. (2) Develops an improved integrated seat system for A/MH-6M aircraft that will provide ballistic protection, crash attenuation, and restraint system upgrades.• MH-47/MH-60 Survivability Equipment/Sensors. (1) Develops the Aircraft Occupant Ballistic Protection System to reduce weight to permit additional critical payloads on mission aircraft, while maintaining or improving armor effectiveness; (2) Develops and qualifies the Forward Looking Infrared Radar (FLIR) Pre-Planned Product Improvements (P3I), which will provide increased detection ranges, a sensor suite capable of target recognition, short wave infrared marker identification, and illuminator detection regardless of ambient and cultural lighting conditions.• Congressional Add to develop a Cable Warning Obstacle Avoidance system. This system will allow aircraft to perform evasive actions, significantly increasing the aircrew’s probability of survival during a hostile fire engagement.• Congressional Add to develop a Hostile Fire Indicating System that detects, classifies, and alerts the aircrew to the presence of small caliber weapons fire for SOF rotary wing platforms.											
B. Accomplishments/Planned Program (\$ in Millions)											

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MH-47/MH-60/A/MH-6M Aircraft FY 2010 Plans: Begin development of ROSES and the improved integrated crashworthy seat system for the A/MH-6M. FY 2011 Base Plans: Continue development of both ROSES and the integrated crashworthy seat system for the A/MH-6M		0.000	7.336	6.787	0.000	6.787
MH-47/MH-60 – Survivability Equipment /Sensors FY 2009 Accomplishments: Continued development of the Aircraft Occupant Ballistic Protection System FY 2010 Plans: Begin development of the FLIR P3I program and begin development of Hostile Fire Indicating System FY 2011 Base Plans: Continue development of both the FLIR P3I and the Hostile Fire Indicating System programs.		1.604	11.448	7.686	0.000	7.686
Accomplishments/Planned Programs Subtotals		1.604	18.784	14.473	0.000	14.473
		FY 2009	FY 2010			
Congressional Add: Cable Warning Obstacle Avoidance System FY 2009 Accomplishments: Began the development of a Cable Warning Obstacle Avoidance System.		0.799	0.000			
Congressional Add: Hostile Fire Indicating System		0.799	0.000			

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B. Accomplishments/Planned Program (\$ in Millions)											
								FY 2009	FY 2010		
FY 2009 Accomplishments: Began the development of a Hostile Fire Indicating System											
Congressional Adds Subtotals								1.598	0.000		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PROC: Rotary Wing Upgs & Sust	93.391	90.936	79.840		79.840	82.562	104.805	104.796	107.595	Continuing	Continuing
D. Acquisition Strategy											
• A/MH-6M - This effort develops and qualifies the necessary protection from crash loads and airframe vibrations by upgrading the current A/MH-6M seat and restraint system to meet current MIL-STD 1290 requirements. A competitive source selection process will be conducted for the crashworthy seat system replacement to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.											
• MH-47/MH-60 Aircraft - This effort develops and qualifies a flare solution that discharges fewer expendables per dispense and emits less visible light to improve aircrew's ability to survive in sophisticated threat environments. A competitive source selection process will be conducted for the Reduced Optical Signature Emissions Solution to the extent possible. Proprietary considerations may direct some efforts to the original equipment manufacturer.											
• MH-47/MH-60 Survivability Equipment/Sensors - Develops next-generation improvements, enhancements, and upgrades to survivability equipment and sensors. Active and passive survivability acquisition will be conducted using competitive processes to the maximum extent practicable. Proprietary considerations may direct some efforts to the original equipment manufacturer.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 United States Special Operations Command											DATE: February 2010		
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Product Development (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MH-6/47/60 Survivability Equipment Reduced Optical Signature Emissions Solution	Various	PM TAPO Ft Eustis VA	0.000	3.772	Jan 2010	3.954	Jan 2011	0.000		3.954	Continuing	Continuing	Continuing
Aircraft Occupant Ballistic Protection System	Various	PM TAPO Ft Eustis, VA	2.558	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Forward Looking Infrared Radar	Various	PM TAPO Ft Eustis, VA	26.499	8.975	Jan 2010	3.732	Jan 2011	0.000		3.732	0	39.206	Continuing
Hostile Fire Indicating System	Various	PM TAPO Ft Eustis, VA	0.799	2.473	Jan 2010	3.935	Jan 2011	0.000		3.935	0	7.207	Continuing
Cable Warning Obstacle Avoidance System	TBD/TBD	TBD TBD	0.799	0.000		0.000		0.000		0.000	0	0.799	Continuing
A/MH-6M Improved Seat System	Various/ Various	PM MELB Ft. Eustis, VA	0.000	3.564	Jan 2010	2.852	Jan 2011	0.000		2.852	0	6.416	Continuing
Subtotal			30.655	18.784		14.473		0.000		14.473	0.000	53.628	
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			30.655	18.784		14.473		0.000		14.473	0.000	53.628	
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 United States Special Operations Command **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 1160482BB: SOF Rotary Wing Aviation/ D615	PROJECT D615: SOF Rotary Wing Aviation
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Exhibit R-4, RDT&E Program Schedule Profile														Date: FEBRUARY 2010																	
Appropriation/Budget Activity				Program Element and Name												Project Number and Name															
RDT&E/7				PE1160482BB/Special Operations Forces (SOF) Rotary Wing Aviation												Project D615/SOF Aviation															
Fiscal Year				2009				2010				2011				2012				2013				2014				2015			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Reduced Optical Signature Emissions Solution Development/Qualification/Test																															
Aircraft Occupant Ballistic Protection System Development/Qualification/Test																															
Next Generation Forward Looking Infrared Development/Qualification Testing																															
A/MH-6 Improved Seat System Development																															
Hostile Fire Indicating System Development (Cong Add)																															
Helicopter Cable Warning Obstacle Avoidance System (Cong Add)																															

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 United States Special Operations Command			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Reduced Optical Signature Emissions Solution Development/Qualification/Test	2	2010	4	2012
Aircraft Occupant Ballistic Protection System Development/Qualification/Test	1	2009	4	2015
Next Generation Forward Looking Infrared Development/Qualification Testing	2	2010	4	2011
A/MH-6 Improved Seat System Development	2	2010	4	2011
Hostile Fire Indicating System Development (Cong Add)	4	2009	4	2011
Helicopter Cable Warning Obstacle Avoidance System (Cong Add)	2	2009	4	2009

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